Smartgrids and smart metering
A new challenge for the electric sector

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CISO
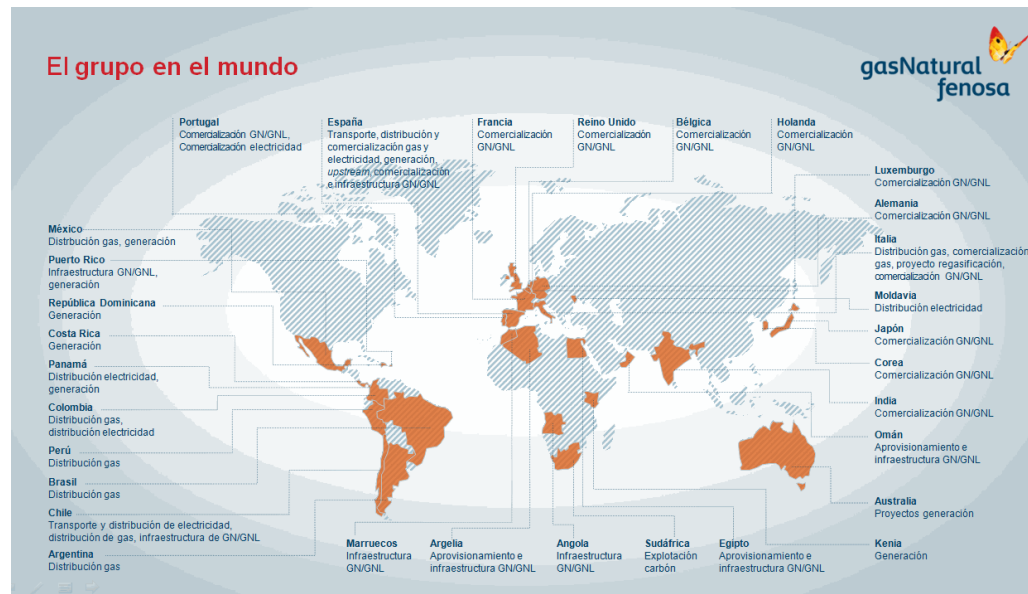Gas Natural Fenosa

April 28th 2014

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Who we are

- Shining cities since 1843

- With presence in more than 25 countries

- 15,5 GW installed

- And more than 20 million of customers

- Covering all stages in the power chain

  – Supply and transportation of gas,

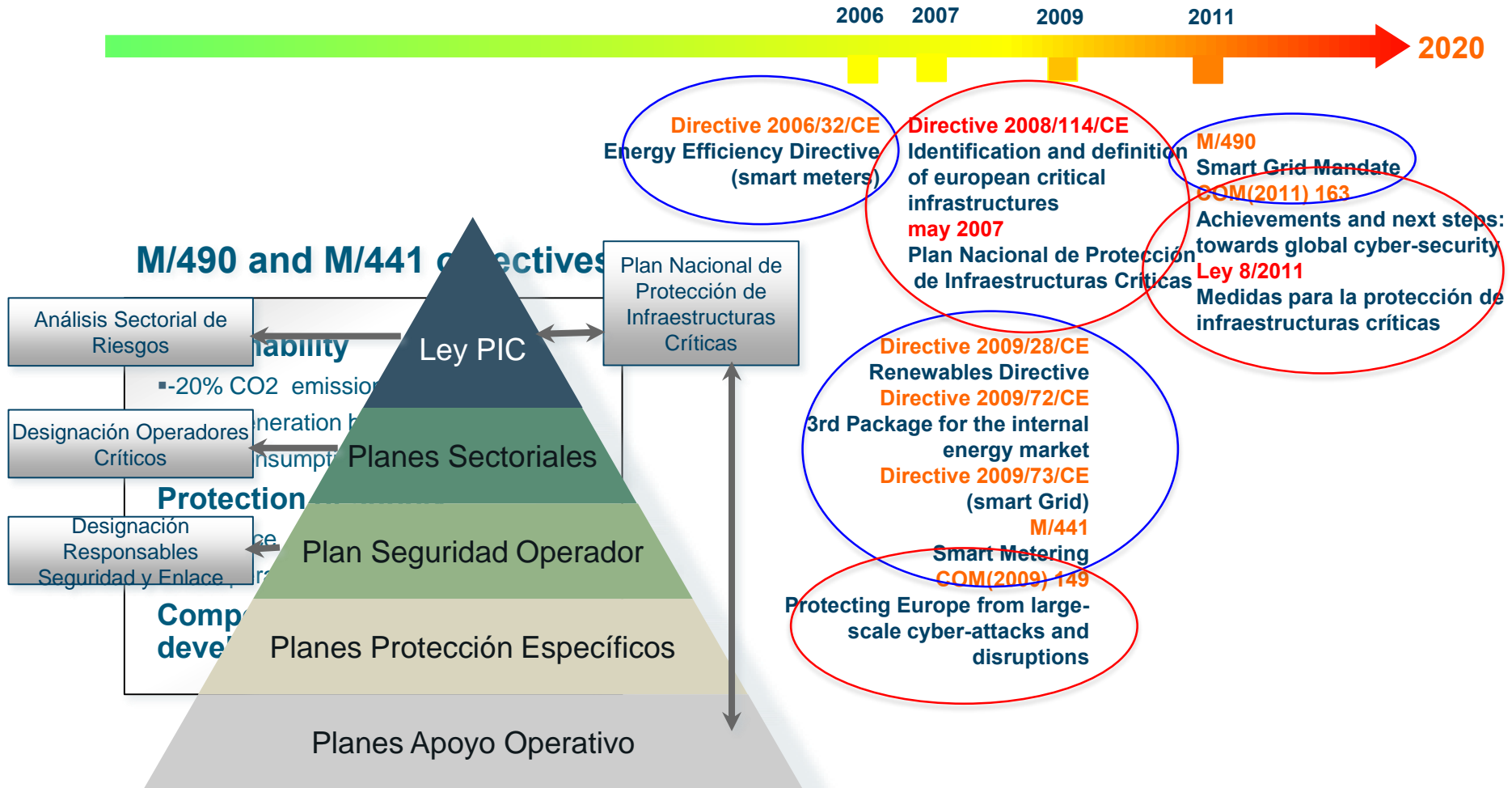 – Generation, Transmission, Distribution, Comercialization and Trading of electricity

Who we are

- The first and biggest company of Spain and LATAM what integrates gaz and electricity

- One of the biggest LNG (Liquefied Natural Gaz) operator around the world

And we keep growing and evolving every day

Smartgrids, smart metering & other regulations

gasNatural fenosa

2006 **2007** **2009** **2011**

2020

Directive 2006/32/CE
Energy Efficiency Directive
(smart meters)

Directive 2008/114/CE
Identification and definition
of european critical
infrastructures
may 2007
Plan Nacional de Protección
de Infraestructuras Críticas

M/490
Smart Grid Mandate
COM(2011) 163
Achievements and next steps:
towards global cyber-security
Ley 8/2011
Medidas para la protección de
infraestructuras críticas

Directive 2009/28/CE
Renewables Directive
Directive 2009/72/CE
3rd Package for the internal
energy market
Directive 2009/73/CE
(smart Grid)
M/441
Smart Metering
COM(2009) 149

Protecting Europe from large-
scale cyber-attacks and
disruptions

M/490 and M/441 objectives

Análisis Sectorial de Riesgos

Designación Operadores Críticos

Designación Responsables Seguridad y Enlace

nability
▪-20% CO2 emission
neration b
nsumpt

Protection
ce
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Comp
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Plan Nacional de Protección de Infraestructuras Críticas

Ley PIC

Planes Sectoriales

Plan Seguridad Operador

Planes Protección Específicos

Planes Apoyo Operativo

New opportunities …

- ## Sustainability

  - 20% CO_2 emissions reduction

  - 20% generation based on renewables

  - 20% les consumption and generation

- ## Protection of supply

  - Resilience

  - Interoperability

- ## Competitiveness and market development
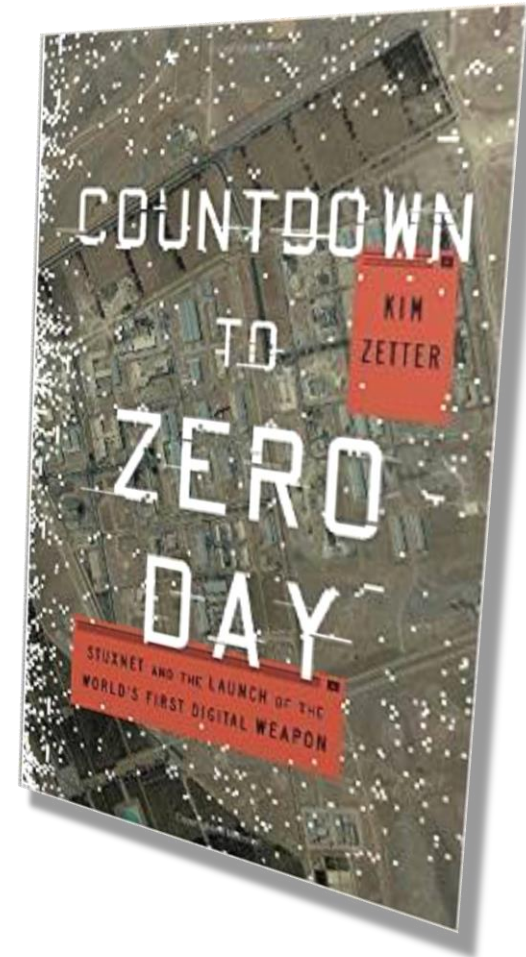
… new risks …

- ## New technologies
  - Extending the perimeter
  - Telemetry and automation
  - Remote control (power cut)

- ## New vulnerabilities
  - Millions of access points
  - Old technologies in place
  - New technologies in place
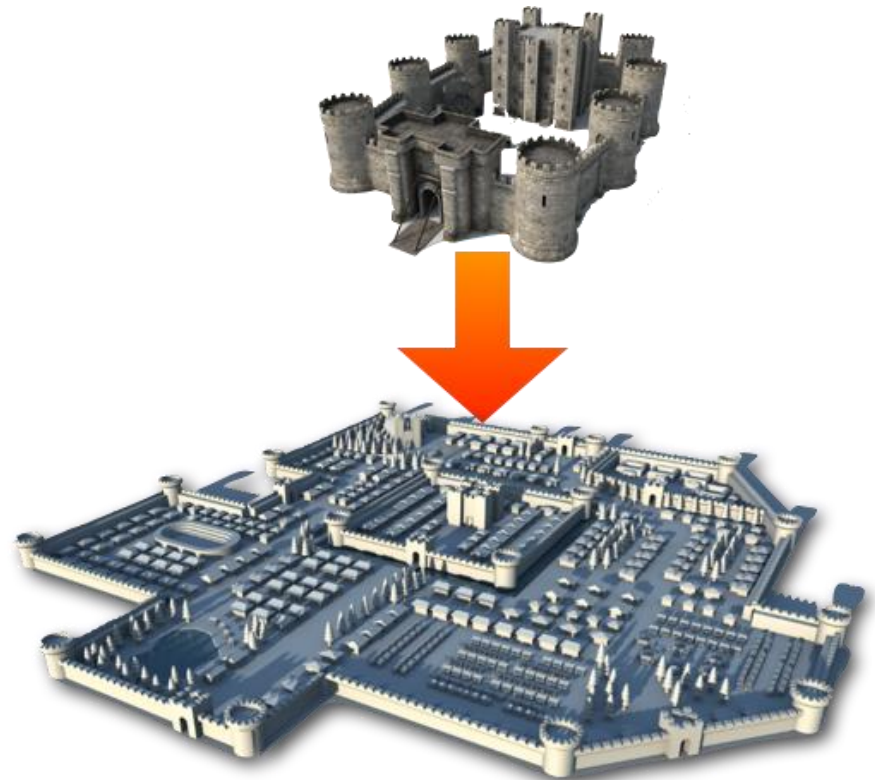
… **and even more risks**

- Increasing threats

  – Identity theft (people & devices)

  – Fraud

  – Loss of privacy

  – Service disruption

  – Take over

- New actors

  – Cyberterrorism

  – Cyber warfare

So, what about security?

- Homework for Utilities

  – Information security awareness and trainning

  – Adoption of new risk assessment methodologies

  – Acquisition of new technologies (PLCs and ICSs)

  – Design & deployment of a new security architecture

  – Unified SOC (physical and logical security) and CERT

  – Pen testing and cyber exercises

  – To evolve and to improve

So, what about security?

- Homework for Vendors

    – Standardization

    – Interoperability

    – Understanding the problem:

        - "Isolation is a dream"

        - It's not "IF", it is "WHEN"

    – implementation of effective security features

        - "Confidentiality vs. Integrity" or "hide vs. Protect"

    – Evolve and update

So, what about security?

- Homework for the rest

  - Third parties (contractors and subcontractors)

    - Certifications and trainning

    - Audit

    - Regulation

  - Governments and other organizations

    - CERTs

    - CA's, RA's (if implementing asymmetric cryptography)

    - We need their support!!!

It's your turn

Thank you

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